THE

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LANDSCAPE OR HOME ADORNMENT.

BY F. R. ELLIOTT.

THE readers of the HORTICULTURIST will remember that in the February number a few remarks were made relative to home adornment, and a promise also made to depict further some features of beauty found in the grounds of Joseph Perkins, Esq., Cleveland, O., which are worthy of study and thought by every owner of a homestead, inasmuch as they are good examples of true taste applied by principle to art in connection with nature. Of the fine arts in general, and of landscape gardening in particular, there are many amateurs whose minds are open to conviction and inclined to truth, but whose powers of observation are not sufficient to enable them to discover what is right and appropriate until it is pointed out to them. The art of composition embraced in landscape gardening has certain principles which go toward forming a unity of the whole, and from which no deviation can be made without marring the result. Taste may be possessed in a greater or less degree; but without reference to principles, it will fail to create a design of harmonious proportion or association. It is to be regretted that so little attention is given to the subject of principle and arrangement of tree, shrub, flower, and path, as a whole, in the decoration of our homes. Thousands on thousands of dollars are yearly expended in creation of new places, to be again remodeled the succeeding year because of the apparent want, when completed, of congruity and harmony necessary to an effective whole. It is not expected that every man will, or can, be a landscapist any more than he can be a physician or lawyer; but he should have sufficient love for his own home to induce him to study the principles of the art, so as to be able to appreciate the reasons for arrangement of designs submitted by his gardener or landscape artist. A spirit of independence, a pride and love for the creation of one's own, should imbue every citizen to the designing or planning for his own home surroundings; but ere he puts his plans into execution, he should submit them to some professional artist for criticism, and be prepared to receive and understand any and all reasons for changes. Were this the condition of things, the rapidity and beauty of creation of new home surroundings would be greatly enhanced; and many a gentleman's grounds that now receive al-

most an annual remodeling, would exhibit most gratifying results within a period of five to six years from first planting. It may be pleasant to pass through an apprenticeship of learning by practice the character of tree and plant, the requisite breadth of lawn or road to give the best effect, or to arrange them in one harmonious whole; but it consumes years of time, and is a knowledge which may be bought and made applicable whenever the purchaser has fitted his mind by reading and study to appreciate it. I make these prefatory remarks because at this time probably many readers of the HORTICULTURIST are about to plant trees, form beds for flowers, etc., and possibly may be induced thereby to think the subject over carefully before ordering the position of a tree or flower bed; and because by creating in their minds thoughts of the art, they will the better appreciate the illustrations exhibiting the work of others.

"One of the most common errors in ornamental gardening is that of mixing herbaceous flowers with shrubs and trees," by which neither can thrive properly; or if they do, the effect of the one is injured by that

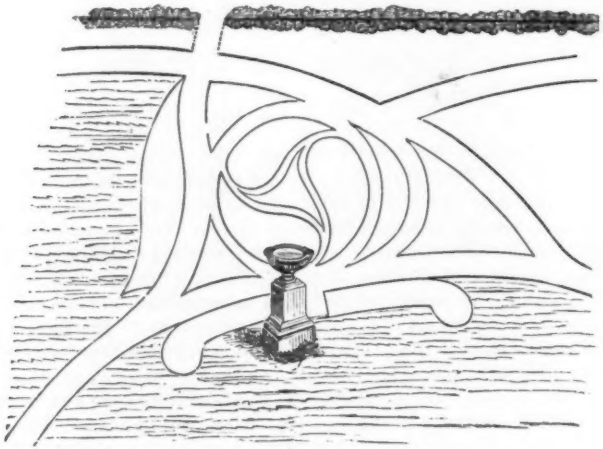

FIG. 46.

of the other. However pleasing and picturesque it may be to see trees, shrubs, and flowers all striving together for the mastery in a natural wood, yet this sort of beauty is totally unsuited to scenes of art; and however much the owner may desire to see and study every tree, shrub, and flower, it is better to plant the surplus in a reserve border in some part of the rear garden, than to destroy unity and effect by a crowding of varieties incongruously together.

Another error common to small gardens is the want of some leading feature of special interest, such as the creating of a flower garden proper, a fountain, or rockery; the last one of the most difficult construction, but especially valuable, for the reason that it never satiates.

The flower-garden proper is the most readily constructed, and within the power of all. It should be always near the house, and if possible so that more or less of the views from the windows of the house will look down upon it. Various patterns for the arrangement of the beds and paths

are found in all works on landscape gardening; but in copying them, thought should be taken as to their adaptation to the position or form of boundary in which they are to be placed. For a plot with parallel boundary lines, the accompanying design, fig. 46, copied from the grounds of Joseph Perkins, is one of the simplest and yet effective which I have ever seen. By examining, it will be observed that the center is a simple circle from which four beds are formed, and from outside of that the paths and beds are made to accommodate natural lines of travel, which the position of the house, being on the side where stands the vase, and the opening in the opposite hedge, seem to demand. Planting these separate beds with masses, each of a distinct color, produces a constant feature of interest and attraction.

The fountain is the second available item of ready construction within a moderate

Fig. 47.

cost. In the suburbs of our large cities, when water is supplied from public reservoirs, the cost is little more than the introduction and placing of pipes. In the country, tanks have to be constructed; and here let me say such tanks should never be placed in the house, because they can just as well be in the barn, and in the event of a leakage, the injury therefrom will be less.

While water, in many ways, is one of the most pleasing and even attractive features of the pleasure-ground, it is at the same time most difficult of association with surrounding features of art. Commonly a basin of stone-work is constructed directly in front of the house, and contiguous thereto, in which some figure, or a succession of urns or basins, is placed, and from which a single little jet of water is forced continuously. Often this falling water, with its

silvery lightness, glittering as with myriads of diamonds in the sun, has for association some stiff and stately tree for its foreground, as seen in our figure, 47, where the owner has planted two Scotch pines within a very few feet of the fountain; while the house, as a background, stands distant some forty feet; the whole bringing out each feature distinct and prominent, but each an item of itself, without any association or harmony with the other. Had this same fountain been placed a little to one side, just where a glimpse of it could be had from the drawing-room windows, and then had for its association near by in the grounds a weeping birch, a weeping beech, and an American weeping willow, it would have been in itself and associations a feature of beauty winter or summer, and in no way appeared as a foreground to the architecture of the house. I confess a dislike, however, because of their want of harmonious association to all of these marble or cast-iron fountains when placed in the open grounds and in association only with an ordinarily kept garden or grounds.

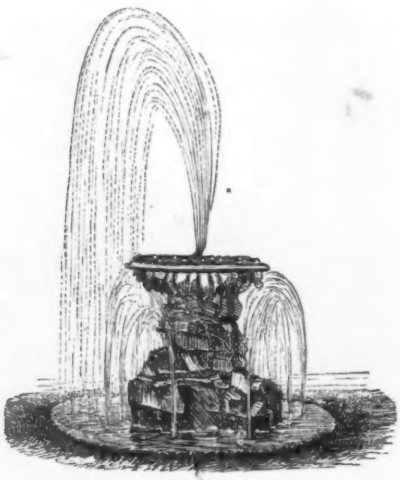

Fig. 48.

In the conservatory, or in the center of an Italian garden, they are in place; but I have yet to see one in the open ground of a small place, kept in the usual manner of gardens in this country, that did not offend the eye when silent, and detract from all else when playing.

As I have said that a fountain may be had at a little cost beyond that of the pipes and their laying, and at the same time be made to harmonize with tree and vine surrounding, I offer the illustration, fig. 48, which is simply varied pieces of rock laid up around the center pipe, and having a wire-work frame, into the meshes of which are woven various colored stones as the basin or urn. A circular pipe surrounds it, over which is laid a pavement of stone in mosaic work, and from between which numerous smaller jets of water arise. In the plinth of the structure, amid the rocks, ferns and water-plants are planted. The mosaic pavement is level with the surrounding turf, with just sufficient dip

Fig. 49.

toward the center to draw the waste water, which passes off by means of a pipe beneath.

Next we come to the rockery, with which, whenever it can be had in quantity, water is a pleasing and attractive feature. It is not, however, necessary to attempt to give their arrangement aught but such as nature's own laws, in her upheavals of the earth or breaking away of water-courses has exhibited, fails of satisfying results. In an examination of hundreds of piles of artificial rock-work, during my travels, I have never yet seen but two that in any way deserved the name, or would lead one to suppose they were natural, not artificial creations.

Fig. 50.

The expense attendant upon procuring material, together with the want of cultivated knowledge in its construction, are features that will always stand in the way

of any number of pieces of rock formation being artificially placed with natural effect in the grounds of our suburban homes; but there is no one expenditure of improvement which is so lastingly satisfactory, so constantly a feature of interest to the owner, and a point to exhibit to his guests, as that of an artificial yet natural rockery. The two pieces of rock-work named above, entirely the creation of art, are—one at Newburgh, N. Y., and the other at Cleveland, O. The first was, I think, the work of a Doctor Ward, and is situated in the side hill at the entrance gateway of property immediately in the rear of the once residence of the lamented A. J. Downing. The second is within the grounds of Joseph Perkins, Esq., Cleveland, and entirely a creation from his own guidance and direction. It is situated a little one side of the center of his fruit-garden proper, and is built upon the basis of a little pool of water that in the hands of most men would have been drawn off by means of an open ditch or underdrain. Not so with this gentleman. After studying the amount of his spring of water for a year or two, until he fully comprehended its capacity, he proceeded to excavate a small pond, which, when filled, is conducted away by an apparent natural shallow brooklet, winding its way several rods and dropping again into another pool or pond of irregular form and somewhat less size than the first. The margin of these ponds and runway is broken with irregular ledges of rock, presenting the appearance as of some upheaval of nature, leaving in its center a deep pool of water, with more or less of broken fragments strewed on its margin or jutting from below. In the fissures of the rock, mosses and vines are luxuriating; while in the places more abundant in soil, shrubs and trees, both deciduous and evergreen, have sprung into existence, overhanging and outcropping the cliffs. Fig. 49 is a view of one line of cliff, taken from the lower side of the pond, and presents the northern face with the water in the foreground. Standing here upon the margin of the water, no view is obtained from outside by which the association of nature's own work can be destroyed with items of art or garden life, and the visitor gathers no impress of anything but mother nature's own work. Surrounding this exquisite piece of art, outrivaling nature, the planting has been so admirably blended and conducted, intermingling fruit-tree and shrub—the flowering and the fruit-bearing—that it is difficult to distinguish any line of demarkation between the fruit-garden and the wildness of nature which greets you as soon as you pass through a rustic summer-house overhung with vines, which is the principal entrance to the pond. Fig. 50 is a view of this entrance, taken from the opposite side of the pond, and showing a glance into the summer-house, with one of the seats, and the broken path of rocks, between two ledges, leading to the water. The pebbly brook, the rustic bridge over it; the little bays, recessed, in which are growing wild flowers, ferns, and mosses; the glitter of the gold fish in the clear water of the pond, are among the additional items of interest and beauty connected with this gem of art in copying or outdoing nature, which, were it public property, would well repay a trip from one end of the States to the other to view it.

PLANT MURDER.—Many an amateur and gardener commits plant murder unwittingly by keeping up a heat in the green-house or propagating-pit during the night season. All kinds of plants will bear a low night temperature with impunity, evidence of which is given from the records of the low night temperature in the torrid regions. Heat without light creates a morbid and unhealthy growth, and loads the plants with disease, sooner or later to be developed by yellow foliage, damping off, etc.

APPLES FOR EXTREME NORTHERN SECTIONS.

THE MARENGO WINTER CRAB.

By reason of numerous letters the past year my attention has been drawn to the consideration of varieties of fruits adapted to our extreme Northern civilized limits of population. Very few varieties of apples are found to be of sufficient hardihood to endure the great extreme of cold which the climate occasionally exhibits. Seasons when the thermometer falls to 36° or 40° below zero are found to destroy the life of nearly all of our cultivated varieties of the apple. The Duchess of Oldenburg and Tetofsky, so far as I can learn, prove the most hardy of any of our foreign varieties, while the Gilpin and Jonathan are among the next hardiest. Of the newer Russian varieties now being tested by Downing, Barry, and others, we of course as yet know nothing, but hope much, from the fact that many of them originated in very high northern latitudes, and may be presumed to possess more than the usual amount of vitality and endurance. The different sorts of crabs, such as Hyslops, Transcendant, etc., etc., I believe all prove hardy in even the most northern cultivated limit; but the fruit, besides being only eatable where nothing else can be had, has also the failing of decaying early in autumn, and thus leaving the grower without apples of any sort for winter. It is a desideratum, therefore, with those whose lot is cast amid the cold and inhospitable regions of the North, to procure even a second-rate fruit that will keep all the winter and at the same time a perfectly hardy tree. To this end it is desirable to note all the new native fruits of the Northwest, that from among them we may possibly find the one wanted. I have now before me as I write, March 28th, 1868, specimens of the Marengo Crab, sent by Charles Andrews, of Marengo, Ill., and which he claims is perfectly hardy in the tree. The fruit is small, as my outline shows, but it is now perfectly

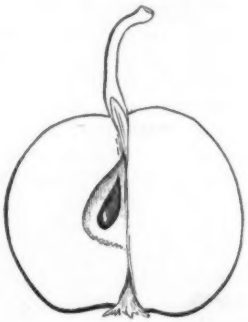

Fig. 51.

sound, of a bright, handsome red color, and the flesh is yellowish, rather dry, but quite rich and quite good, as I have before said—when there is nothing besides it to be had. For those who live in regions where such varieties as the Jonathan, Fameuse, etc., can be grown and kept, this variety, except for cider or vinegar, is not worth ground room; but for the extreme north it may prove equally as valuable to residents there as the Shocklay, which is but little better, does to those of the Southern States.

F. R. E.

Pears in Iowa. — In Henry County, Iowa, we learn that large quantities of pears of ordinary quality, probably natural seedlings, are grown, and many of them made into perry. Standards do well there, while Dwarfs do not receive the care in planting and pruning necessary to success.

HARDY SEEDLING PEACHES.

THE difficulty of growing and fruiting peach-trees in many locations makes every item of information toward overcoming it valuable. In a late number of the *Country Gentleman*, A. Babcock gives an account of a seedling peach orchard as follows:

"Near Wales Center, Erie Co., N. Y., 50 miles south of Lake Ontario, and 25 miles east of Lake Erie, on a ridge of tolerably good land, is a peach orchard of 200 seedling trees, 24 years old, now in good bearing condition. This orchard had its origin from seed brought from the vicinity of Sturgeon Lake, in Canada, about 116 miles north of Lake Ontario. These trees are a freestone, red rareripe variety, with a red cheek, and most of them sweet and well flavored, though they vary some in color, flavor, size, and time of ripening. They differ from the old red rareripe in several points: they are better flavored, more dwarfish in growth, being *very slow* growers, stone *very small*, blossom *large*, good bearers—generally bear heavy crops every other year. They bore large crops in 1858, 1860, 1862, 1865, and 1867. The intermediate crops between those years did not amount to much. If the fruit had been *thinned out* about half while small, probably these trees would have borne crops annually. These trees have never lost a crop by spring frost, though in the spring of 1865 the mercury sank to 28° while they were in full bloom.

"As near as I can learn, they have not received any extra care in culture or skillful treatment in pruning. They branch out about two feet high, their trunks now averaging about four inches through—their most notable peculiarities being slow growers, of dwarfish habit, having large blossoms and small stones. The owner of this orchard has three or four generations of this Canada seedling now in bearing, and several farmers in that locality have fine young bearing orchards, and all seem to have the same characteristics of slow growth, hardiness, etc.

"Our common sorts of budded trees and seedlings seem to have utterly failed there for ten years past, in fruitfulness and longevity, when planted side by side with this Canada seedling, and this test, it is claimed, has been thoroughly made, showing conclusively the superiority of the latter. * * * The theory of the people who have this Canada peach is this: they say it is from the north, where the summers are short, and the roots, tops, buds, and fruit all *ripen early*."

To this he adds, "I believe that peaches can yet be grown all through eastern New York and New England, at a moderate outlay of labor, by adopting a plan something like this: get young seedling trees, or seeds from good flavored natural fruit from the north, say Canada or Grand Traverse Co., Mich. After one season's growth in nursery rows, take them up, and cut back to a stump within three to six inches of the collar; plant them in sheltered places, with woods, hills, ridges, or buildings on the *north* and *west* sides of orchards; keep them headed *very low*, like currant bushes, by cutting back annually or semi-annually, so that the trees will not be more than six feet high when six years old. Avoid tilling late, say after July 15, and mound them up with earth with plow and shovel, to protect the lower part of the branches from cold, and to keep out the borer."

THE BEST EARLY BEET we have ever grown is the Bassano. In good ground it grows quick, cooks tender, and is just sweet enough to be delicious.

THE PASSIFLORA—(*Continued*).

BY HORTICOLA.

The treatment of the Passiflora is very simple. It requires rich but porous soil, which may be prepared by mixing leaf mold, perfectly decayed sods from old pasture grounds, and well-rotted cowdung together, with the addition of some sand. Peat, sweetened by long exposure to atmospheric agencies, may be substituted for leaf-mold. The pots should be comparatively large; sufficient drainage is important. During the growing season the plants need much water, and are benefited by often repeated syringing; in the winter no more water must be given than is absolutely necessary, especially when they are kept in a rather cool temperature, otherwise the roots will suffer. They must be repotted *at least* every spring. A temperature varying between 45° and 60° Fahr. is suitable to all kinds. If the temperature is low, but moist, many kinds suffer from mold at the joints, by which they are injured very much. Some kinds stand our winters when growing in the open air, *f. i.*, incarnata. P. cærulea is hardy in northern Germany, when covered up a little. In this country I never succeeded, even with the utmost care, to keep it alive in my grounds.

Passion flowers grow very easily from the *seed* in a hot-bed, or even in a warm room. To open them a little with a penknife before planting, as recommended by some, is unnecessary, for they germinate without the least difficulty.

Layering is always successful, but very seldom practiced, as cuttings will grow with certainty. They are taken from young shoots before the wood is too firm and old; if it is too succulent, the cuttings decay instead of forming a callus and making root. In long-jointed kinds two eyes are sufficient; in short-jointed, *f. i.*, P. kermesina, the cuttings are made from two to four inches long. They require very sandy, light soil and bottom heat. Keeping them in a close atmosphere assists the process of rooting very much.

Pieces of the root, provided they are not too thin, grow, if similarly treated, with facility. The best time for making cuttings is the spring; in a propagating-house they strike easily in the winter.

Passion flowers may be grafted according to all the known methods; but as grafting them presents not the least advantage, it is only done occasionally by amateurs. There was a time when I placed some confidence in it for certain purposes, but I soon gave it up.

Very important, however, is hybridization. We owe many very beautiful varieties to it, *f. i.*, P. cærulea-racemosa (P. cærulea and racemosa G. princeps), alata-cærulea (alata and cærulea), Loudoni (kermesina and princeps), etc. The anthers as well as the pistil being so prominent in the Passion flower, any child may perform the operation with success. It is advisable to remove the anthers of the flower to be impregnated with the pollen of another kind as soon as the flower opens, and a little later, when the pollen appears to be in the right condition, to cut off the whole flower, or a single anther, to touch with it the pistil of the flower to be operated upon. If the operation has succeeded, the fruit will soon commence swelling, and will protrude from the decaying flower. When the fruit is—according to the kind—of the size of a filbert or of a walnut, the decaying floral leaves, etc., and the remnants of the calyx, must be carefully removed, so that the fruit is freed from everything surrounding it, otherwise it is sure to drop prematurely, its footstalk

and tube decaying along with the soft, succulent floral leaves. This is the *only* means to insure the ripening of the fruit.

I am not aware that this all-important fact is mentioned in any of the books on horticulture; but I remember how often and how sadly I have been disappointed before it occurred to me to resort to the expedient just mentioned.

I have very rarely obtained ripe seed from the common P. cærulea, oftener from P. princeps and P. kermesina, and a few others. But there is a kind so ready to be impregnated by the pollen of almost every other kind, that I wish to call the attention of those interested in the matter to it. It is the P. cærulea-racemosa, and a lighter variety of it. Both, it is true, are hybrids themselves, yet they produce hybrids with so much facility and certainty that it is astonishing. I have raised from it a very large number of hybrids, some of which I flowered before I left Germany. One of them was exquisitely beautiful, its color being snowy white and its growth compact. I neglected naming it, and so it may have been lost.

As P. cærulea-racemosa itself is one of the finest kinds in every respect, nothing better could be selected for the mother plant. P. discolor or Maximiliana takes also the pollen of others very readily; but as its flower is rather insignificant, it is for the purpose of hybridization much inferior to P. cærulea-racemosa.

Pruning in the fall, and *pinching* during the summer, are essential in the management of the passiflora. I never saw any injury arise from very severe pruning. The flowers are produced on young shoots, often protruding directly from very old wood. If not cut back annually very severely the Passion vines will soon become unsightly, bearing their flowers at the end of long, naked stems. If not pinched in during the summer as often as young shoots need it, to prevent them from growing too long and slender, a number of kinds will not flower at all, when grown in pots; when, on the contrary, frequently pinched, the plants will be effectually checked and compelled to make new shoots, which will soon show flower buds. In this way I proceeded in flowering even Tacsonia mollissima and Pinnætistipula, two kinds that have rarely been seen in bloom, except when growing directly in a border of a green-house. Those which I flowered grew in the open air.

Severe pruning and pinching are also the only means of dwarfing Passion vines. This was a favorite object I had in view when I devoted so much time to their cultivation. Some kinds are, with a little attention, easily dwarfed, *f. i.*, alata, alata superba, quadrangularis and its varieties. P. insignis and Decaisneana, also phœnicea, kermesina, princeps, and Loudoni, are a little more refractory, but yield to energetic perseverance. Cærulea, however, laurifolia, maliformis, and the like, baffle very often the cultivator's well-planned exertions.

Some of the readers of the HORTICULTURIST may remember a charming specimen of P. quadrangularis var. Decaisneana, not more than seventeen inches high, with fifty-one buds and open flowers on it, which I had shaped in the way indicated. It was, when I lost it, several years old; its woody stem measured an inch in diameter, and was a foot high. The first year I cut it back to about a foot from the soil in the pot, and by pinching the young shoots as soon as they had grown three or four inches, to two or three eyes, the plant formed a head like a willow-tree or the grapevines in some countries. At last, flower buds would protrude from the old wood or from very short branches.

All kinds will bear planting out during the summer. It is not necessary to grow them when so treated on trellises sheltered by walls; they did very well in my garden, however bleak its situation and exposure are. As some are very rampant growers, *f. i.*, cærulea, laurifolia, etc., it is necessary to provide for the room indispensable

for their full development, and to separate such as are comparatively but moderate growers, *f. i.*, kermesina, from others. The soil that suits them best in the open air must be very rich, deep, and porous, without any stagnant water below. Even in the open air, pinching is very advantageous; the two Tacsoniæ mentioned I flowered in the open air; they grew in a border of my garden, and were very severely pinched.

Some say that it is difficult to make Passion vines grow again in pots when taken up in the fall. This is, however, an assertion not based on facts, for they all grow very vigorously under proper treatment. They, of course, lose many roots. Most of them *must* be cut off, as their mass would, in many cases, be too large for any pot. The plants themselves must be pruned back to a suitable size. If, during the summer, branches have been provided growing from near the root, there will not be the least difficulty in keeping the plants within reasonable bounds.

It is always judicious to have a supply of young plants of the kinds planted out to take the place of those which accidentally may have grown too large, although there is not much danger of that if they are carefully and judiciously managed. They are as pliable as grapevines; they yield with equal facility to the hand of the experienced cultivator.

I will conclude this article with a list of the most beautiful kinds which have been in my possession. A strictly alphabetical order would hardly answer my purpose; I will rather group them together, as far as practicable, so that the amateur may have a guide for selection.

Passiflora alata.
Do. do. superba.
Do. phœnicea.
Do. Gontieri.
Do. quadrangularis.
Do. do. insignis.
Do. do. Decaisneana.

These are very similar, so that, when not in flower, they may be confounded by such as are not acquainted with them. They are very beautiful; their flowers are, to a certain degree, of a cup form, and are very large, from four to nearly six inches in diameter (P. q. Decaisneana); stems, angular; leaves, without lobes, ovate, serrated, pointed. P. alata Gontieri and quadrangularis have from four to six glands at the base of the leaves. P. phœnicea has but two, of a bright yellow color, by which it can easily be recognized; color of the flowers, dark red and blue. P. quad. insignis blooms when very small. P. quad. Decaisneana has the largest and most imposing flowers. Mr. Donadi, of Astoria, introduced it to this country a number of years ago.

P. alato-cærulea—a hybrid raised from the seed of P. alata, impregnated with pollen of P. cærulea. Flowers, very large, but more flat or open than those of the alata; leaves, varying in their shape, some being lobed, others not. Not a rampant grower, but a profuse bloomer.

All the kinds just described are very fragrant.

P. alba—white.

P. albida—white.

P. amabilis—very beautiful. It is a hybrid of P. princeps (racemosa) and alata. Fragrant.

P. augustifolia—yellow and blue.

P. coccinea—red.

P. cærulea—too well known to need description. Hardy in northern Germany, when covered and protected from rain.

P. cærulea-racemosa—in two varieties, one of which is lighter in color. They are hybrids of P. cærulea and princeps (racemosa). Both of them are very desirable kinds also for hybridization. Very profuse bloomers during the summer and fall.

P. edulis—white and purplish. It ripened its fruit with me in the open air.

P. Doroscondiana—red. Most beautiful in every respect, and similar in growth and leaf to P. cærulea-racemosa.

P. filamentosa—blue, resembling P. cærulea; flowers, larger and brighter, but

fetid. With me it sprouted in every spring from the root, the stem dying in the fall.

P. hybiscifolia—white and red; fetid.

P. holosericea—flowers, when growing in a border under glass, so profusely that it excites the admiration of those who see it. Flowers, not large, bright orange and red, they close between two and three o'clock P.M.; foliage, very soft, like velvet.

P. Imperatrice Eugenia—in every respect a magnificent plant. Leaves, very large, three-lobed, and of a very elegant shape; flowers, sometimes more than five inches in diameter, of a purplish color, approaching to pink; a prodigious bloomer.

P. incarnata (May pop)—hardy here, sprouting every year from the root; flowers, white or reddish, fragrant. It never bore fruit with me.

P. kermesina and *P. kermesina major*—one of the most beautiful kinds. No collection, no green-house should be without it. Elegant and graceful in its habit and growth; leaves, three-lobed, of a glossy green, and when young, purplish red, on the under side especially; blooms when very young; flowers, bright purplish red and blue; the shape of the flowers reminds one of an Indian head-dress. P. kerm. major is larger, but the color is not so bright and pure as of the common P. kermesina.

P. Loudoni—a hybrid of P. kermesina and P. princeps (racemosa). Flowers, red, but so bright that it is almost impossible to look on them for any length of time in the sunshine. I do not know of any other kind in the whole tribe that I could compare with it in this respect.

P. laurifolia—white and purplish.

P. Lowei—similar in color to P. quadrangularis.

P. lyræfolia—rose.

P. maliformis—white and blue.

P. Middletoniana—very elegant and fragrant; reddish and purple; a free and profuse bloomer; also the foliage very beautiful.

P. Comte de Kiseleff—received from Mr. Geitner, but I am not sure whether the name was correct. A most profuse bloomer; flowers, larger than those of cærulea, of a peculiar grayish purple.

P. picturata—very beautiful; purplish and blue.

P. princeps (racemosa)—leaves, tri-lobed, of a leathery texture, pale green, shining; flowers, red, in long racemes. One of the most beautiful kinds.

P. serratifolia—white and bluish.

P. adiantifolia (Disemma)—a most graceful, elegant plant. The leaves resemble those of our fern called the Maiden-hair; flowers, dull red and brown.

P. Murucuja (Murucuja scellata)—pale scarlet; very elegant.

P. pinnatistipula (Tacsonia)—red and white.

P. mollissima (Tacsonia)—rose, charming.

Tacsonia Buchanani, recently introduced by Mr. Buchanan, is said to surpass all the Passionæ in cultivation. I have not had any opportunity yet of seeing it.

Dr. Blumenau, director of the colony bearing his name, in southern Brazil, about 30° S. L., a scientific botanist, wrote to me last fall that he had received some seeds of a Passiflora recently discovered in Peru. Its fruit, of a delicious flavor, reaches the enormous weight of 8lbs. Dr. Blumenau promised me a plant, which I shall receive during the ensuing summer. I shall take good care of it, and distribute young plants as fast as I shall be able to grow them among my horticultural friends.

As it is very tedious to read lists of plants, I do not wish to make it more extensive, although it contains hardly more than one third of the kinds I have had under cultivation. In making it, I endeavored to select such kinds as will give the greatest satisfaction to the amateur.

THE PEACH.

It must be honestly confessed that, as scientific horticulturists, the majority of us know very little about the peach.

Stop! I may be too fast in this proposition; well, let it be modified by saying that very little definite information is to be met with in our periodicals respecting the peach.

Since A. J. Downing wrote up the history and practice of peach-growing as an orchard crop, few satisfactory experiments have come within our observation calculated to throw a satisfactory light on the want of success which has, in the majority of cases, attended the extensive culture of this fruit.

Too much alike many other ventures, "peach-raising has had its day."

This idea might be accepted without comment but for the fact that under certain circumstances, and in various sections of the country, at intervals, fair crops of a fair quality are produced. But what is more important, individual trees, in many sections, are found to produce abundant crops of the largest and finest fruit, without, it would seem, any special care or attention. Such trees are produced from chance pits, either deposited as an experiment in private yards or gardens, or spring up spontaneously from the pits cast away by chance. In either case the result is of equal importance in demonstrating that good peaches and an abundant crop may be obtained from such individual trees, leading us to the inquiry, why this result in these exceptional cases?

That there are hundreds of such instances of chance seedlings producing luscious fruit, and an abundance of it, it is presumed no one will question who has been a close observer or frequent attendant at fruit exhibitions.

Nothing connected with our fruit culture is more striking than the rapid decline of the peach crop in many sections of the Middle States. It can scarcely be credited that, in twenty years, districts of New Jersey have fallen off from thousands of bushels of choice fruit to a few bushels of like quality; the remainder being spotted, second rate, or almost worthless fruit. Yet who can doubt but that negligent cultivation and a want of due attention to the requirements of this unacclimated tree have been the chief causes of the deterioration?

Changes in the atmospheric conditions of our climate have, without doubt, had much to do with the recent failure of the peach, as all our orchard fruits appear to be on the decline during the past quarter of a century. Atmospheric changes can not, however, account for the entire failure; several other matters bear a part of the blame. Various reports of reliable and interested growers combine to place considerable weight on the nature of the soil, and many of them express their belief in the absence in many soils, otherwise apparently suitable, of some "unknown ingredient" which the peach demands; this is but negative information. Other more certain defects are readily detected, such, for example, as the general exhaustion of the thin sandy soil chiefly selected for peach orchards; the exhaustion of the vigorous constitution of the trees by injudicious selection of diseased or debilitated pits; budding by selecting cions from one-year-old immature trees, in which the wood-producing cells only have been developed; inattention to the selection of a proper site, in which the tree will be exposed during the early spring and late fall, so as to avoid the premature starting of the sap before the severe frosts have disappeared, thereby exposing the expanding buds, and in autumn or early winter shelter preventing the full development and maturation of the wood by the partial ripening of the foliage—

these are some of the causes which, in my mind, have led to the failure of the peach.

To what extent the skillful and intelligent cultivator could avoid the evils arising from the causes above enumerated, we can not accurately determine.

In addition to the presumed evils, the remaining well-defined causes of deterioration are, the attacks of the borer and other pests; the winter killing of the buds in unusually severe seasons, and the blighting of the blossoms from the same cause; the injury to the foliage from parasitic fungi, induced by want of vigorous development, and other contingencies.

The condition of a tree can be determined on inspection by a skillful cultivator. The presence of a multitude of twiggy shoots crowding the interior is an evidence of negligence in pruning; the absence of a healthy green hue in the foliage argues imperfect development of the coloring matter—the best evidence of healthy leaves; this you may call the "yellows."

The presence of the "curl" or blister on the leaves, showing the attack of a well-known form of fungus which has secured a footing in consequence of the unhealthy state of the tissue, but which will temporarily yield to a vigorous growth at a more advanced period of the season, and the presence of other forms of parasitic pests, are certain evidences of weakened vitality. Once for all it may be safely affirmed, that as the multitude of animalculæ attack the fallen trunk and limbs, and reduce the organs of which they are composed to mere decaying matter, so these organized vegetable growths of the lowest grades attack the still struggling plant, and insinuating their peculiar roots or *mycelia* into the cells and passages, draw therefrom the juices destined for the support of its foliage and appropriate them to their growth and nutrition. Without these wonderful agents—the scavengers of the vegetable world—we should fail to note the presence of imperfect vitality, and should prize our invalid trees as if they were perfect models of health, to be mortified and disappointed at the unprofitable result.

The practiced eye, however, detects the various forms of minute parasitic fungi on the leaves or bark or wood, and thus is forewarned of the approach of insidious decay. Such, however, is the nature of these forms of the vegetable kingdom that they continue for months and years to increase and spread over and throughout the congeries of cells and vessels, until the tree, with its multitude of leaves and shoots, falls a prey to their insidious attack. So much, at least, has been learned of the philosophy of these minute but innumerable attendants on debilitated growth. How much remains to be learned, we dare not conjecture.

The "curl," "mildew," or any other form of such parasites is but the evidence that all is not right within the tree. The sooner we set ourselves to stimulate and restore a healthy growth, the sooner these will drop their hold upon its vitals. "FUNGUS."

THE SALEM GRAPE.

A WRITER in the April number calls for information in regard to this grape, wishing to know the color, etc., stating that *Hovey's Magazine* describes it as black, or, in other words, so much like No. 4 as to be difficult to distinguish them; also, that the *American Horticultural Annual* describes it as blue, with a brownish tint. Now we do not wonder that "Grape-grower" is puzzled if he prefers to take such authority instead of the description in the advertisement when the grape was offered last spring in the HORTICULTURIST and *Gardener's Monthly*, especially when told in a notice appended that there was a spurious sort in circulation.

There has never been but one grape disseminated by me as Salem or 22, and that is as described in the advertisements last spring and in the circular issued at the same time. The grape is there described as a light chestnut or Catawba color; but every one is aware that this color may be lighter or darker, according to season or location, but would never change to black like No. 4.

In regard to the numbers, now that the grape is named, it would perhaps be best to drop them altogether. If "Grape-grower" will turn to the HORTICULTURIST or *Gardener's Monthly* of last spring, he will find that fully explained; he will there see that my original 22 and 53—not those circulating about the country as 22—are the same grape, and mere private marks to protect the public as well as myself from imposition. If the public is in want of this grape as there described, they can find it in any quantity by ordering of the friends of the late lamented Mr. Requa, of Salem-on-Erie, Brocton, N. Y., who purchased the principal part of my stock of this variety; or it can be obtained of me to a limited amount.

We will here state, for the benefit of "Grape-grower" and others, that before the Salem was offered last spring, and afterward, we had letters from parties in different States saying they had 22 already in fruit from other sources, describing it as like No. 4, naming the parties of whom they bought, and to whom we had never sold a vine. This, of course, was the spurious sort. As it was generally known that we were about offering a new grape, the parties having the spurious 22 would at once put the name of Salem to it; therefore we were led in issuing it to change the private number and substitute another; but thinking that a few of the true sort might have been disseminated accidentally, and not wishing to impose on the public, we published the notice referred to, although at a great loss, and to all who ordered gave leave to withdraw if they saw fit before receiving anything for the vine.

One other remark from "Grape-grower" may need attention, where he says my original description of 22 was "amber." Although this description may be correct, as 15 is described as "amber" by Colonel Wilder, we do not recollect to have given this description of it publicly, as we never advertised it or described 22 in any of the circulars of the other numbers.

We hope the discrepancies alluded to are now cleared up to the satisfaction of "Grape-grower;" and will here repeat that there is but one true Salem, and that as described in the advertisement of last spring.

E. S. ROGERS.

HARDIHOOD OF APPLE-TREES.

THE rapidly increasing settlement and cultivation of our northwestern territory, together with the increased interest and attention given to fruit-growing, is demanding a knowledge of all the items tending to constitute a hardy tree. The comparative hardihood of any one variety when root grafted or budded some four to six inches above the crown, has been freely discussed, and we believe has resulted in a pretty general impression that the budded tree is the best. One capable writer has tried to soften down the generally considered error of root grafting by distinguishing a line between grafting on *short* or *long* pieces of roots, claiming that the great trouble is owing to the few and uneven roots formed on the short pieces, and the disadvantage or difficulty of taking up the trees without cutting them badly.

As, in our knowledge, the roots, however started, form in ratio to the growth

of the top, we do not see how a graft inserted on a piece of root one foot or more in length gives any more hardihood to the tree than when the graft is put upon a root of only four inches in length. It has ever been our impression that the seat of vitality—the point of hardihood, if you will, because the more of vitality the more of endurance—lies in what is termed the crown, that point from whence, in a seedling, the root shoots one way and the top another. In any plant grown from a cutting or a root graft, this natural point is lost; nature is forgotten, and art has assumed control; a more ready and rapid propagation is obtained, but at a measurable loss of natural vitality.

In the study of our cultivated varieties we have learned that some have more of hardihood to endure climatic change than others, no matter how propagated; and as a rule, it is found that the nearer the cultivated sort is allied to a natural or crab, the hardier it is. In vegetable life, as in animal life, all have not alike the same vitality and capability of endurance; and when we work any one of our cultivated sorts on any number of seedlings, the results are not alike, as every practical observer knows. Greater uniformity is maintained when a variety is root grafted than when budded upon an indiscriminate lot of seedlings, an item which we view as sustaining our idea of the vital point and the influence obtained thereby.

The recommendation of the Wisconsin State Horticultural Society to grow apple stocks from the seed of Siberian Crabs, because of their hardihood, is a good one; but in order to follow our own views, and enable the grower to obtain the greatest hardihood for his permanent trees, great care must be taken, first, to see that the tree from which his seed is taken be perfectly healthy. Second, to select his seeds, using only the largest and plumpest. Third, when his seedlings have grown one season, and stood over one winter, to go among them, and root out all that show any sign of feebleness. These three conditions performed, there is good reason to suppose the operator has material on which to build permanent growth, which he may do by budding or grafting at any point not less than four inches above the natural crown of the seedling.

Nurserymen will of course object to this mode of procedure, as involving too much care and labor corresponding with the present price of trees. But if there is really anything in it, as according to our belief, then it would be better for the planter to pay four or five times the present price of trees, each one of which could be depended upon, than to receive the trees grown upon the present cheap and reckless manner as a gift.

As we have said, the northwestern portion of our territory is alive to this subject, and demanding attention and knowledge thereto, insomuch that we believe a stock of apple, pear, and cherry trees, grown upon principles tending to give them increased hardihood, would as soon as grown find ready sale at remunerating prices. The people are becoming rapidly educated in fruit-growing. Instead of the orchard being an appendage to the main objects of the farm, to be planted and then neglected, it is yearly coming more and more to be the leading item, one that can not be overlooked even by the owners of the largest of stock or grain farms; and with this knowledge of the value of fruit-growing comes a corresponding knowledge of the difference in value of trees and vines, and a willingness to pay therefor.

EVERY kind of fruit is increased in size and improved in quality by attendance on early thinning. If done early, the one pear or peach left where two were, will often become as large as both would, and be vastly better.

QUINCE OF COXE APPLE.

FRUIT: size, large; form, roundish oblate, broad obscure ribs; surface, glossy, uneven, or wavy; color, clear greenish yellow with faint shades of deeper green suffused—few minute dots; stem, slender; cavity, broad, open, deep; calyx, nearly

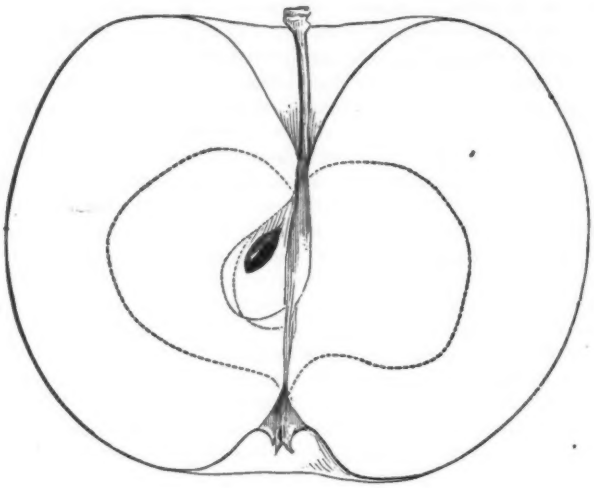

FIG. 53.—*Quince of Coxe Apple.*

closed; segments, erect, slightly recurved; basin, open, deep, abrupt, slightly corrugated at bottom; flesh, yellowish, breaking crisp, juicy, a little coarse grained, subacid with a distinct quince-like flavor; core, small; seeds, abundant, irregular. Season, December to March; "very good."

"EASTERN EXPERIENCE IS OF LITTLE AVAIL TO US."

THIS remark from the report of the annual meeting of the Iowa State Horticultural Society is made the "text" for an editorial article in the March number of the HORTICULTURIST. The article dissents entirely from this statement, and says that "if the writer thereof lives a few years, and makes fruit-growing his study, he will find that he was very far from the truth when he wrote it;" and "Iowa is not so much a distinct State in soil or temperature that she can afford to throw away the experience of New England," etc. If I am not mistaken, the author of your "text" is a friend of mine who passed the meridian of life in the noble State of New York, and with ripe experience in Eastern fruit-growing, removed to young Iowa, and using that experience here, met with disaster; but now, after long years of extensive experi-

ments here, having abandoned old notions, he has achieved a success that is a glory to his old age, and made the above remark guided by the light of more than a half century of observation and practice in *both* the East and the West. Further: the writer of this left the old Bay State fifteen years ago to make a home in young Iowa, and bore in his breast that self-sufficient, self-satisfactory feeling of superiority that nearly all Eastern people feel who do not know the West. Availing myself of the best Eastern knowledge that I could get from books or men, I ordered a huge box of trees of Baldwin, R. I. Greening, Fall Pippin, Louise Bonne de Jersey, Black Tartarian, Crawford's Early, etc. They were transferred to my new home, and after the lapse of one Iowa winter they were all dead or hopelessly crippled.

Guided by the same light, a similar selection was ordered the next year, and a similar result followed. The third year a similar but smaller list shared a like fate. Chastened, but not discouraged, a gleam of light from a nearer but smaller luminary arrested my attention. It occurred that perhaps a totally different soil and climate might require a different selection of varieties and a different mode of treatment. Acting on this thought, I have now an orchard of 3,000 vigorous young trees, from one to twelve years, planted in perfect health, and promising to yearly increase the amount of beautiful fruit they are now producing. Among them all there are not one hundred trees of varieties that I would select in New England.

Eastern experience is of very little avail to us. It taught me that Baldwin and R. I. Greening were just the thing to plant. Western experience has taught me that they will winter-kill like a fig. Eastern experience taught me to prune in winter for wood, and in summer for fruit. Western experience has taught me not to prune in winter at all. Eastern experience taught me to train trees with open heads, to let in the sun and air. Western experience has taught me to grow trees with compact heads, to keep out the searching sun and winds of the prairies. Eastern experience taught me to manure all kinds of fruits liberally. Western experience has taught me that it will not do. In Massachusetts the soil is thin and poor; in Iowa it is rich and deep. In Massachusetts the air is moist; in Iowa it is dry. In Massachusetts the summer is cooler than in Iowa; and in Iowa the winter is much colder than in Massachusetts. In Massachusetts the Baldwin apple is the most profitable; in Iowa it winter-kills to the ground. In Massachusetts the Catawba will never fully ripen; in hot, arid Iowa it seldom fails. Massachusetts is built on granite—Iowa on limestone. The soil, seasons, atmosphere, flora, geology, and geography are essentially different, and of course require different treatment.

My birth, boyhood, and early manhood were spent in the dear old Bay State. My manhood's prime till I have passed the half-way post of life's allotted span has been wholly devoted to fruit-growing in young Iowa, and I beg to corroborate the statement, that Eastern experience is of very little avail to us. I should not have written these lines, but your article was so typical of the opinion that pervades the whole East, that I thought I would give you the Western view of the subject. Even the *American Agriculturist*—with cosmopolitan claims—advised a Minnesota correspondent to plant Baldwin, R. I. Greening, Fameuse, Roxbury, Russell, or any variety that *succeeds in the same latitude East.* Every one mentioned will kill but the Fameuse; and the principle is wholly wrong, for some of our hardiest sorts are from the South.

The American Institute Farmers' Club, New York, ridiculed a correspondent from the far Northwest who inquired for hardy sorts of pears. They replied, with a sneer, that all pears were hardy. They did not know what they were talking about. I will give one hundred dollars for one half

dozen pear-trees of any variety of fair quality that is perfectly hardy here.

Iowa has often been condemned as a poor fruit-growing country, but it has been only by those who have tried it in the light of Eastern experience. We are slowly, but perseveringly, working out the problem of fruit-growing on the great rich prairies of the Northwest. We are already achieving success, and in due time shall be able to show results commensurate with the fertility of our soil and the vigor of a growing young State. D. W. ADAMS.

WAWKON, IOWA.

MASSACHUSETTS vs. NEW JERSEY.

BY ROBERT MORRIS COPELAND.

NEW ENGLANDERS are such a wandering people, and move from home so easily when they think they see a possible advantage in change of residence, that it will be difficult to persuade them that it is not necessarily climate or soil which makes one part of the country preferable to another. The stubborn soil and cold climate of New England seem to be unfavorable to profitable cultivation of the earth, and young men who would like to get their living by farming emigrate to more favored lands. Those who prefer grain or stock raising go West; cotton and sugar attract some South; while New Jersey, Maryland, and Delaware offer immense inducements to the market gardener and fruit culturist.

The demand for fruit and vegetables has increased so rapidly in the last ten years that every available acre near the great cities has been in demand, and men have learned that the hitherto neglected sandy pine barrens of the three States above-mentioned are the best kind of land for market gardening. The sandy soil is easy of cultivation, warms readily, and is responsive to manure. Every month the horticultural magazines give almost fabulous accounts of the bushels, baskets, and pounds of fruit grown to the acre, and almost convince the reader that he only is truly happy who has a good bit of New Jersey soil to cultivate, and a family of growing children to help him take care of the crops and gather the fruit.

But even the seductive stories of the profits which attend upon good market gardening fall a little when compared to the incomes which have been and may be derived from the vineyards and peach orchards, which occupy favored places near the lakes or along the borders of the rivers of the Middle States. It is not strange that the repeated and verified statements of profits attract the men who have worn out a life in toiling among our boulders and gravel, and that fathers lend some of their hard-won earnings to their sons to go and reap in the new harvest fields. If six or eight hundred dollars per acre are to reward those who have the enterprise to go away from home, the wonder really is that any remain to till our own lands.

But we who live in New England and make shoes and ships, sell cloth and leather, must live too, and must, and want to eat fruit and early vegetables; and although we are very glad that our relations should grow rich by gardening, we do not like to pay them a fair price for their crops and add the cost of transportation besides. We still believe, with the *Protectionist*, that the nearer the producer and consumer live to each other, the better for both.

I believe I can show, by a few facts and a little reasoning, that there is no need of New England's looking beyond her own borders for anything which the soil and climate can give, unless it may be peaches; but certainly all the small fruits and garden crops may be produced as early and

cheaply in Massachusetts as in any other of the Northern States.

As I propose to consider the profits of market gardening, it will be best to state at first that the principal element of success, as shown by increasing profits, is the control of the temperature with which plants are to be surrounded in their infancy. Of course it should be admitted that no man ought to begin this kind of work who does not love it for its own sake, as well as for the money it will bring. No occupation demands more attention and hard work; and no one will succeed in it who is unwilling to give his whole time, thought, and energy to it.

The market gardener's peculiar profit, as distinguished from those which any farmer may hope for, are derived from his extra early and late crops. Of course I do not mean to say that the middle or summer crops are unprofitable, but they have to compete with the supplies which farmers, from far and near, may pour upon the market. To grow early or late fruit or vegetables requires some previous education; an investment of capital in hot-beds, green-houses, tools, manure, and other appliances which are requisite for producing crops out of season. To use the materials, after they are produced, successfully, is the test of the skill of the gardener, and it is here that we find the most remarkable differences in men's success or failures; and, at at the same time, this is the most interesting part of the business. It gives occupation when all other out-of-door work is suspended, and opens a very wide field for individual enterprise and progress. The successful man must be a careful observer of the weather; must notice and remember the little advantages which plants derive, particularly when young, from variations in food and temperature and extra care, and must be quick to take advantage of every new discovery and invention which relates to his occupation.

Early crops have the advantage that they do not compel their grower and vendor to be an absolute slave to the markets; there are but few competitors, and no one is compelled to spend all his night getting to market lest he shall be too late for morning customers. The earliest crops may be prepared and sold with as much deliberation as any other kind of merchandise.

From the earliest crops, if economy has been observed in their production, and every advantage taken of the weather and good cultivation, profits may be realized which fully equal those derived for any other kind of gardening or farming. It is in this direction that Massachusetts farmers and gardeners may compete with any other men occupied in the same way; but not all men are equally successful—in fact, but comparatively few succeed in the best sense of that word, even when they have invested all the money that their business seems to require. In order to understand the differences between the possibilities and realities of market gardening, I must first describe the common method of preparing and producing early crops.

While describing, discussing, and perhaps condemning the ordinary methods by which market gardeners raise their early crops, I would not have any one suppose that I undervalue the results to which our market gardeners have attained; but they are small when compared to what might be expected if men would only avail themselves of their opportunities.

The market gardener provides himself with a quantity of glazed sashes, six feet long by three feet wide; these sashes are laid on the ordinary plank hot-bed frame, well known to every reader; the frame rising about a foot from the surface of the ground.

At the proper time to begin winter forcing, a cellar is excavated beneath the sashes as deep as experience has shown to be best; this cellar is filled with at least three feet of solid fresh horse manure, which is overlaid with about six inches of fine loam. Soon after the bed is made the manure begins to heat or ferment, and gives out a

great amount of heat, which warms the superincumbent earth and the interior of the frame.

To preserve all the heat which is generated, the outside of the frame is banked with fresh manure, and the sashes at night and in dark weather are covered with mats or shutters; whenever a cold spell threatens, the manure on the outside is replaced by a fresh supply, and additional mats laid over the glass.

As soon as the heat has moderated a little, the seed is sown or young plants pricked out in the earth of the hot-bed, where, stimulated by the bottom heat, they are expected, with the aid of air and water, to grow to mature plants.

Of course it is very difficult to control or reduce the generating heat; the only method is to let air in by raising the sashes. As the gardener can not get into the frame to judge of its constant heat by the senses, and can only get slight assistance from the thermometer, the adjustment of the temperature becomes the test of his skill. Too much heat will draw and burn the plants; too little will damp them off.

Besides the extreme difficulty of managing heat, is the inconvenience of getting at the beds to transplant and weed, and the impossibility of doing either of these things in cloudy and cold weather. At such times, however important it is to overhaul or reset the beds, nothing can be done lest the beds cool off too much. Cloudy days are the best for transplanting, as the plants suffer least from the check at such times, but the necessity of maintaining heat leaves the operator no choice.

When one crop, as lettuce, has been taken from the winter hot-bed, all the labor of preparation must be repeated, as the heat—the one absolutely important element—is exhausted. Spring hot-beds fare better in this respect; the heat of the sun will replace the waning strength of the manure, and the lettuce can be followed by radishes, cucumbers, tomato plants, etc. In spite of all this labor, anxiety, and chance, winter-forcing is often very profitable, but certainly precarious. It is not strange, then, that market gardeners, who know all the risks, should look longingly at the coast of Virginia, the Carolinas, and even Florida, as the very promised land for winter-forcing for the Northern market. In these favored regions the spring sun can perfect far more than manure can even promise; but there are difficulties in the way of growing early crops at the South for Northern consumption: they are of so perishable a nature that long transportation may ruin them, and the producer who lives too far from market to give his personal attention at least occasionally to his sales, will hardly rival the gardener who can carry his own crops to the consumer.

Hot-bed culture in some form, then, will continue to be the source of all early crops for city use. The question now presents itself, do market gardeners avail themselves of the best methods for producing their crops? If they do, it would seem to prove Nature to be capricious, and to show that some plants are willing to thrive under circumstances very unfavorable to all other species; for if florists, and those who grow fruits for early markets, are unable to attain satisfactory results by using manure-generated heat, but can raise flowers and fruit at will by fire heat, may it not then be reasonably supposed that market gardeners can advantageously substitute one for the other.

[TO BE CONTINUED.]

TRAILING ARBUTUS.—For rock-work, the arbutus uva ursi, or bear berry, is one of the prettiest and best of our native plants. Leaf mold or peat sand in which to plant it, is essential to its successful growth.

AN HOUR AT HOME.

BY JOHN S. REID.

For the past year my grape culture may be put down as a failure, and notwithstanding all my enthusiasm in its success, candor compels me to admit this result.

For these three years past my Catawba vines have produced no ripe vintage; for although they opened splendidly, and summer seemed to indicate a large yield, the rot finally ruined the prospect; and when October came, almost nothing was found but shriveled and blasted fruit, unfit for any use whatever—no grapes, no wine!

After experimenting for almost twenty years, I find the Catawba, from some cause or other, in this section unfit for vineyard cultivation, and therefore last fall I dug up my vines of this description, and am replacing them with the Ives Seedling, a variety said to be much hardier, and free from mildew and rot.

The Herbemont and the Diana are two other varieties which at one time promised well with me, but after one or two seasons they showed signs of mildew, and now I place them as vines suitable only for garden culture, with winter protection.

The Iona, which yielded fruit of most excellent quality, and which was introduced to the grape world as *the* grape, superior and reliable for the table or the wine press, like the Catawba, has given way; and although it is a fruit equal in every respect to any grape cultivated here, it is fast following the misfortunes of the Catawba, of which it appears, to my judgment, to be a seedling.

I have tried the Anna, Alvey, Adirondac, Allen's Hybrid, Clara, Elsinburg, Lincoln, Lenoir, and a number of others of fancy varieties, and have found them all failures, as out-door hardy grapes—not worth the attempt of cultivation.

But there are a few varieties which, with proper common care, succeed well; these are the Clinton, Concord, Hartford Prolific, and the Ives Seedling, which promise right. To these I may add the Delaware and Israella; the first for hardiness and quality of fruit, the second for earliness and size of bunch and berry. The Rebecca is a most beautiful grape, but has proved with me a complete failure, and so have the hybrids of Rogers.

Perhaps it may be said that my vineyard is not suitable, or that I do not cultivate aright. My vine-hill lies east by south, and in bygone years produced Catawbas equal to any of Kelly's Island. In regard to the cultivation, I have spared neither time, skill, or money; and in making wine, I have been successful as an amateur wine-maker. The climate also is not far wrong, being on the 40th parallel, and my residence on the second bench of the beautiful White Water. Hence I am of the opinion, that when the grape suitable for this region is found, I may yet enjoy my *otium cum dignitate* under my own vine and fig-tree.

I am now past the meridian of life; the snows of fifty winters have powdered my once raven locks, and a few more years are all that I can expect to pass on earth; how pleasant, then, to look forward through a vista of flowers and fruits, to sit under the blossom of the peach and the apple, and in autumn to enjoy their luscious production. Hence, notwithstanding my many failures, I continue planting and resetting, trimming and cultivating, preparing for that evening of life when the hands will refuse their cunning and the strong muscle its action, and labor becomes a burden.

This season I shall plant five hundred Ives and a few hundred Concords, which with those I have, and the other varieties, I will look forward to the enjoyment of a feast of roses, of wine on the lees well

refined, such as I have had in former years, when I sent your predecessor a bottle of my red-cork to wet his whistle.

This is Easter Sunday—cold, bleak, and stormy. The peach blossoms are opening their beautiful flowers, I am afraid, to be destroyed long before the fruit is matured. The green bud of the raspberry has bursted its winter covering and looks chilly and feeble; the grape has begun to swell and the early pear to bloom. May we flatter ourselves that He who tempers the wind to the shorn lamb will so arrange the seasons that spring and summer and autumn and winter shall each in its own proper orbit pervade the world?

My own white and black seedling grapes I am carefully nursing, and testing their quality and strength. As last year was a failure with me in the grape line, they were no exception; still, each showed qualities of No. 1 grapes, and this season I hope to report satisfactorily their *status* in the list of grape excellence, or not at all.

I wish some grape fancier, who enjoys the pleasure of having something nice in the way of a white grape not found in market, would send me in exchange a small rootlet or a few eyes of his variety, and I'll return in kind from my white. I am anxious to obtain a white grape the bunch and berry of which will equal the Catawba in quality, and excel it in durability and health or power to resist disease.

O that I was on the shores of the Mediterranean, where the Falernian used to flourish, or the grapes of Eschol were found! then I would wander amid the vineyards of the past, and perhaps find some vine whose fruit would unite the luscious sweetness of the Roman with the size of the Jewish grape.

THE OPINIONS OF MY NEIGHBORS.

BY FRANK AMON.

A LITTLE more than a year since I ventured to write down a little of talk had with my neighbors; and as the HORTICULTURIST very kindly published it, I am induced again to try my hand at tale-telling; not that I have anything very new or strange to tell, but that possibly my neighbors' opinions and views, as they are practical and good cultivators, may be of use to some readers of your valuable journal who are as yet but little acquainted with horticulture.

My neighbor S., in talking of fruit-growing, says that at one time he believed in confining himself pretty much to one kind of fruit, but that experience has taught him that it is most profitable to grow a variety, and therefore he last year made plantings, and is continuing, of all the small fruits, together with grapes, pears, etc., etc. He feels pretty certain that the use of salt as manure is going to keep his pears from blight. On this point B. says the salt may give nourishment and a stimulant to the tree, and perhaps a healthy one, but he has no faith in its virtues as a remedial agent. He—Mr. B.—counts pear blight as sporadic or atmospheric, created by sudden and severe changes of temperature acting upon crude and undigested sap, the affection talking place in the leaf vessels, and thus the poison passing down the albumen and developing itself sometimes at one point, sometimes at another. As for myself, I say nothing. I only try to keep my trees growing steadily, not too rapidly; and when I see blight, out with my knife and cut it off way down below any tinge of complaint.

The question of cherry-growing for profit being up, neighbor P., who has some hundreds of trees, said he would plant largely of Early Purple Guigne, Rockport, Pontiac, Red Jacket, and Louis Philippe.

Most money can be obtained from Early Purple Guigne; but the best cherry for all purposes is the Louis Philippe. P. says he wonders where the thought or knowledge of fruit men has been that this cherry has not become more generally known. Neighbor A. says that last year he tried to obtain this cherry at various nurseries, but could not find it. He wishes if any dealers have it they would advertise. He says, also, that he gives nurserymen credit for one thing, viz., they are gradually cutting down their lists of sorts; and little by little the people who very largely depend on what the nurserymen say as to the value of varieties, are planting only the best sorts, and in a hundred trees but a few varieties. With A. I agree, and commend the nurserymen; but I also desire to see the list very much reduced from present numbers. The list of fruits now embraces so many of really superior quality that there is no occasion for growing a second-rate sort. A tree of the Jonathan apple will occupy no more ground than one of Cayuga Red Streak or Smith's Cider; and while the fruit of the first is superior almost everywhere, the others are only good to look at and sell to people who can not obtain better sorts.

While upon this point, I will remark that I have just been looking over some old catalogues, and am almost astonished at the confusion or duplication of one variety under many names which once existed. Truly a great change has been made, but more is yet wanted; as for instance, the Townsend apple is issued by some under that name, and also by its new Western cognomen of Hocking—both being the same. But the apple with perhaps the longest string of names is the Nickajack, which has twenty-eight synonyms, such as Berry, Red Hazel, Wall, etc., etc., and unfortunately is yet issued by some persons as distinct varieties under the synonyms.

But enough of this: it was not what I set out to tell you. Neighbor E., who in talking of planting peas says he gives all credit as an early pea to Carter's Early, states that last year he planted it side by side same time with Tom Thumb, Early Gem, and some others, and gathered first from it. For late peas, he also says there is nothing as yet superior to Champion of England.

Neighbor A. says in planting and growing blackberries and raspberries he shall always practice the hedge system, *i. e.*, growing them in rows, of two feet wide or so; and every year after cutting out the old canes, and such small weak ones as are not wanted, he spreads in among them a coat of two or three inches thick of manure. This, he says, enables him to get large crops of fine fruit even when we have a drought or great heat.

Neighbor E. says the growing of the gooseberry is one of the most profitable of small fruits, but that we want some one to give the subject attention and raise us a seedling that shall be as good a bearer and free from mildew as the Houghton, and as large and fine quality as any of the best European sorts. This he says can be done, and he hopes some one will go about it. He says the largest and best for market now is the Mountain Seedling, but that while it produces abundantly and is of a large size, it has too thick a skin, and is too coarse for anything but to sell.

Speaking of currants, he said that nothing yet equaled the Red Dutch under high cultivation. The Cherry, Versaillaise, and Fertile d'Angers he thinks so near identical as it to make it useless for a man to buy the one if he has the other. In some markets, he says the large size of the Cherry currant will perhaps make it command a better price; but for canning or jellies it is not so rich or sweet; and once a person has bought it, they will drop it for the good old Red Dutch.

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and Publishing Departments, to F. W. Woodward, 37 Park Row, New York.

Summer Pruning the Vine.—The summer pruning of grapevines commences with the first inch of growth, and if then performed, and carefully continued during the entire season, we should hear nothing of the injury attendant on its practice, nor could we find an opponent thereto. It is by rubbing away at once all buds, which, if left, would grow to useless wood—it is by carefully just nipping the end of a shoot and directing its energies into more rapid and perfect development of the wood and leaves already formed, that we can summer prune, guiding the supply of food to the sources we desire expanded; and yet our most strenuous opponent can find no point of attack; for in this course we have never robbed the vine of any amount of expended food, or by the destruction of a single leaf or twig sent a vibrating thrill of disease toward the root.

It is already time to be about the work, and in many sections perhaps long past the time, for the seasons of our Southern friends are much earlier than ours.

According to the mode of training and winter pruning, seek now to guide the sap and growth into canes for next year's fruiting, and also into strong and healthy leaves on those already setting with fruit, carefully and severely rubbing out all buds or young shoots that tend to crowd the vine with foliage and at the same time extract supply from the roots. The simplest, and we believe the best method, is that of renewal canes from the ground yearly; and the vine should be now carefully studied, to judge of its capacity to fruit another season on two, three, or more canes, and such should be left and carefully guarded—not even a lateral touched during the season—but all others should be rubbed out and kept out.

Don't Mulch Yet.—We believe in mulching as much as we believe in good cultivation, for it is a part of it; but there is a time for benefit to be derived in the greatest degree from both. Light, heat, air, and moisture are as essential to the growth of roots below ground as they are to that of leaf and twig above; but if the mulch is put upon the ground early in spring, the direct action of these elements is lost, growth is retarded until heat has approached from a side connection, and it is then continued often late in the season, resulting in an immature, unripe condition of the plant. We have found our best results to come from stirring the soil frequently until the summer heat, then apply our mulch, removing it again early in October, and again applying it as soon as the ground is well frozen. By this course we give our roots, in the spring, the benefit of the elements they need to make perfect growth; we keep the powerful rays of the midsummer sun away and thus give them a longer time to fully mature wood and root; we give them in autumn the action of the atmosphere to enable them to gradually harden the root and branch and fit it for the extreme cold of winter; and in winter, after having frozen them to sleep, we cover them so that they may not be wakened from week to week, but continue their nap until such time as, by the natural order, they should again pursue their appointed course.

FLOWER GARDEN.—Bedding out is now the principal business. The arrangement of the beds in tasteful forms to show well, as well as the placing of plants relative to color, is a work of considerable thought, and too often results in failure, because of too great haste and want of consideration. Do not get the beds larger than your plants will fully fill. A small form well filled is better than more breadth and with a bold show of naked soil. Place your brightest colors—as crimsons, scarlets, etc.—in the center, and surround with lighter shades. An edging of dark purple around shades of pink and white is also sometimes effective, especially with beds of quite small size. It is important to have the plants well hardened, before placing them in the beds, by careful exposure to the weather, at first by day only, but in the end by night also. Choose dull dry weather for planting, if possible, and have the plants rather dry, for if recently watered they will not turn out as nicely. Water freely when set, and cover the surface with a light mulch. The Variegated or Striped Japan Maize forms one of the most showy and desirable plants for the center of large beds, or for creating a bold, attractive point in the distance.

HARDY FERNS.—No class of plants affords as much satisfaction to the grower the year throughout as do the native hardy ferns. Our forests, in many sections, abound with them in great variety, and at this season of the year they are easily removed. A little peak of rocks, if not in artistic taste, is soon relieved and made bright by the introduction of a few hardy ferns; and when they are mingled with Daphne Cneonum and Juniperus Squamata or repens, the effect is always pleasingly attractive.

ANNUAL FLOWER SEEDS should now be sown in the open ground. Prepare the ground very fine, and with small delicate seeds sow them, and then press them into the ground by a piece of board, leaving the board afterward over the whole, but raised say one or two inches from the ground for a few days, or until the seeds are fairly sprouted, when the shade should only be on during the middle of the day. Some of the coarser seeds may be covered from one sixteenth to one quarter of an inch deep, and a few will bear half an inch; but more are lost by too deep than too shallow covering. Don't forget to shade the seeds until after they have fully germinated.

PLANT EVERGREENS.—Throughout most of our Northern and Western States the month of May is the best time to transplant evergreens. Remember that they give life and character to your home in winter; serve to break the storms and measurably to soften the temperature; are now cheaply and easily procured, and you owe it to your fellow-men, if not to yourself, to plant them. We would have them on all our Northern and Western boundaries. We would mingle them occasionally in our orchard, and hedge our small fruit grounds and vegetable gardens with them everywhere.

THE AMELIA PEACH.—T. S. K. is informed that I was fully aware of there being a Southern peach described under name of Amelia before I described Mr. Husmann's seedling; and furthermore, he is informed that the naming of the peach was no act of mine. I merely described the variety under the name its owner chose to apply to it. The Southern seedling I have never seen, and know nothing of it except from catalogue descriptions, which unfortunately are so much at variance that I have sometimes doubted whether our Southern friends themselves knew just what they were growing under the name of Amelia. I shall be most happy to receive specimens of the variety the coming season from my Southern brother pomologists, and am now taking measures to inaugurate an interchange of fruits among all the members of the Pomological Societies' Committees during the coming season.

F. R. ELLIOTT.

A NATURAL RURAL ARBOR may be grown in a few years by planting trees at equal distances apart, either in a circle or hexagon form, and as they grow, interlock the branches; and when high enough, bring together the tops at the center to form the roof. Bending outward, or cutting away occasional inside branches, will of course have to be done from time to time; but it is of comparatively little trouble, and four to five years will often construct a summer-house more enduring than one man's life. The Osage Orange, the Scotch Elm, or American Birch are some of the good trees for this purpose; the latter perhaps being a little too open or scanty in foliage, but exceedingly pretty in the results as we have seen.

PEAR AND APPLE TREE ARBORS.—Many persons appropriate the ground devoted to the main walks in their gardens by planting grapes, and so training them as to form an arbor under which they walk. It is undoubtedly a good plan, but by reason of the frequent renewal of trellis, or at first forming it of iron, is rather an expensive one. The apple and pear tree may be just as easily bent and trained to form arbors and produce fruit as the grape; and with this advantage, that when once formed they will continue the arbor of their own strength, and form without the aid of wire or slat-trellis. We grow fruit so easily, as yet, and land is so cheap, that we practice little economy in use of land, or study little the facility by which the growth of tree and plant may be directed to any point or form.

MR. EDITOR: In the April number of the HORTICULTURIST I notice a correspondent, Wm. Sumner, of South Carolina, says he has a remedy for rot in the grape. Now, let me propose to him to place this remedy in the hands of a few careful grape-growers in different sections of the country, imposing on them secrecy as to the *modus operandi*, and if they report favorably next year he may realize a handsome bonus for his discovery. I believe there is not one horticulturist in the United States that would be unwilling to pay a good price for a remedy against rot in grapes or curculio in plums.

Yours, etc., O.

LOUISVILLE, KY., *April* 8, 1868.

GRAPES IN MINNESOTA.—From a letter received from Truman M. Smith, Esq., of St. Paul, Minn., we make the following extracts: "I fruited twenty-seven varieties of grapes last season, and have ten other varieties yet to fruit; but I must place the Delaware at the *head of the list*, and Creveling next. Ontario or Union Village has done finely with me, also the Concord, Hartford Prolific. Northern Muscadine is good *here*, and outsells the Concord, Isabella, or Catawba in this market. It seems to lose much of its foxy flavor here, but will drop from the bunch when fully ripe, and is not a good keeper. Delaware kept hung up in a dry cellar until 7th of February, when the last were eaten."

PLUNGING PLANTS.—In setting pots of plants outside the green-house for the summer, we have found that when embedded in sand, fine charcoal, or even tan-bark, their health and vigor were greater than when the pots were just set upon the surface earth. It is the general practice to set the plants from the house out on the north side of the building, and to occasionally give water; deviating from this course we have found our plants more vigorous and healthy in autumn when again to be returned to the house by selecting a place where the morning sun would reach them, and where some tree or building would throw on them a little shade at noon, and then arrange them by placing a board six inches below the level of the ground, and setting the pots on it to prevent roots working into the soil, and to secure certain drainage; then after placing the pots, filling between them with fine charcoal, if obtainable; next to that, sand; and next to that, tan-bark or sawdust.

EDITORS OF HORTICULTURIST: I notice Mr. Woodward, in the last number of your journal, makes me say: "Hardly any boy of twelve or fifteen would know a peach or gooseberry." I have no recollection of ever having said this. My remark was: "No boy of twelve or fifteen would know a *nectarine* or *apricot*." Respectfully yours,

H. W. SARGENT.

BOSTON, 23*d March*, 1868.

[The quotation by Mr. W. A. Woodward from Mr. Sargent's article in the *Gardener's Monthly* for December, and published in our March number, page 61, is correct. Mr. Sargent probably had not his notes before him when he wrote the above. The difference is not with us, but lies between him and the *Gardener's Monthly*.]

A NATIONAL GIFT.—CORRECTION.—In speaking of the gift bestowed by the Hon. Marshall P. Wilder on the Massachusetts' Agricultural College Institute, we stated the camellia Abby Wilder as having been grown from seed of the camellia Floyii, which was an error, it having been grown from seed of the Middlemist, fertilized by pomponia.

LILIUM AURATUM.—Although late in season to plant bulbs of this beautiful lily for flowering this season, it should be remembered that the bulb is perfectly hardy, and that the strength of stalk and size of bloom are much increased by the roots being well established in the ground. We therefore advise the purchase and planting of small bulbs, which are now offered very cheap, with a view to next season's flowering. Let the soil be made deep, and rich in well-rotted animal manures; set the small bulbs about one foot apart and, say, three inches below ground; then plant petunias, verbenas, or geraniums between for this season's beauty.

ASSORT YOUR FRUIT FOR MARKET.—It is well proved by record of statements made by our most successful fruit-growers that it pays to assort the fruit before sending it to market. One dozen of the largest berries picked out of a quart and tastefully and showily arranged will often bring nearly as much as the whole quart, when the large are mixed with the small; and this rule of superior size and show commanding the superior price, holds good all through the lists of fruits.

CULTURE OF GLADIOLUS.—As a background or center to the flower border or bed, the various gladioli must not be forgotten, as they add a special enrichment to our gardens often when there is a dearth of other flowers. In preparing the ground for them, it can hardly be dug too deep or made too rich with well-rotted animal manure. An excess or scarcity of water is opposed to their wants, and a deep, well-drained, strong loam is the best; but if a choice must be made between a position liable to be too dry or one liable to an excess of water, the dry one is best; because liberal watering can be given, and manure watering once a week is especially valuable to them. When planting, select the strongest bulbs for the most prominent positions, and after carefully rubbing off every small offset at the base, divide and set them singly, and at a uniform depth in the ground, and equal distance apart from each other. The inferior bulbs and small offsets should be placed in some retired portion of the grounds, or in pots in the reserve garden, as many of the small bulbs will bloom freely, but would not keep character and proportion with the best.

CHEAP BELL GLASSES.—A correspondent writes for information about a cheap bell glass for gardener's use. He says, "Last season a friend of his saw, somewhere in New Jersey, cheap bell glasses in use that cost about six dollars per hundred." Our correspondent does not say where in New Jersey. Can any one tell?

LETTUCE if sown now in the place where it is to grow will be good, but it is too late to sow for transplanting.

THE FIG.—Of all the semi-tropical fruits none are more deserving of cultivation or more easily grown than the fig. Under glass in the green-house it will ripen two crops of fruit in a year, and even when kept in pits or light cellars during winter it will ripen fruit in succession during summer.

Young trees are very gross in their habit of growth when unlimited space is allowed to their roots; consequently they do not arrive at a bearing state so soon as those having their space somewhat limited. In our observance of the practice of various growers, we have witnessed the best results from trees planted in boxes or tubs about eighteen inches deep, with nearly one half filled with coarse charcoal and gravel for drainage, and the trees so planted that their roots were all near the surface. The giving them only a shallow soil to work in, with good and thorough drainage, seems at once to dwarf the plant, as it were, and bring it immediately into a bearing state. Care must be taken to water freely and often during the growing and fruiting season, and all the training or pruning should be done by the pinching system, in order to check superfluous growth and advance the formation of fruit spurs. The watery suckers, which are often seen around the stems of fig-trees in the usual way of managing them, should always be kept off; and while a stem of one foot or so be given to form the head of the tree, all below should be kept clean, and all above be regularly pinched into the forming of a regular compact, bushy, yet open head.

STIR THE GROUND FREQUENTLY.—A frequent stirring of the surface of the ground during the early and growing part of the season is almost, if not quite, as good as a coat of manure. In fact, our experience and observation have taught us that we succeed better with our young plantations, or our bearing ones, of raspberries, currants, dwarf pears, etc., by a regular system of stirring the surface soil at least once a week, than by means of a heavy dressing of manure and only two hoeings for the season. A light, loose surface admits heat, air, and moisture, all combining and necessary food for the plant; while a hard, compact surface excludes these influences and prevents the action of chemical or natural changes, and hence the comparatively moist condition of the plant.

ROSE SUCKERS.—Notwithstanding what may be said, a large number of the hybrid perpetual roses grown and sold are budded on the Manatti stock, and at this season of the year the cultivator of such roses needs to watch carefully the shoots from his rose-bushes, lest some of them prove to be only the stock or a sucker from its roots, which, if left to grow, will in a very short time rob the main plant in such a degree as soon to destroy it. The sucker or false shoot can be easily detected by its habit, spiny wood, reddish color, etc., and should be at once rubbed out.

TO THE EDITOR OF THE HORTICULTURIST: There is considerable force in the remark you made lately, that of the small list of apples recommended as successful over a large extent of our country, half or thereabouts were recommended by the veteran Coxe fifty years ago.

But there has been progress, nevertheless, for an examination of his valuable and interesting work will show that for summer he had nothing equal to Early Joe, while for fall Ohio Nonpareil is beyond his best. And it is questionable if any variety he describes approaches anywhere near Rome Beauty and Ben Davis for profitable orcharding. R. J. B.

FAIRFIELD CO., OHIO, *April*, 1868.

CONTINUE to sow peas two or three times during the early part of this month, for the purpose of lengthening out the season. Veitch's Perfection and Traite's King of the Marrows are two good kinds to sow at this time.

Sale Fairs.—The New Jersey State Agricultural Society are about to inaugurate a new feature in the agricultural exhibition of this country. They have put forth the programme of a fair, to be held on their grounds near Newark, on the 20th, 21st, and 22d days of May next. The novelty on this occasion will be the making a mart for the buying and selling of the stock exhibited — horses, cattle, sheep, swine, poultry, etc. In this they are taking a leaf from the book of European practice. Every one knows that these occasions in Europe are grand holidays for the people, and that the amount of sales often reach a very high figure. There is a manifest advantage in these sorts of fairs if properly carried out. They offer to the countryman a chance to dispose of his stock to the best advantage near his home, without going to a great city, there to be at large expense and risk; and likewise to the purchaser, the opportunity to select what he wants when the specimens offered are brought into competition and comparison with others.

We hope this will prove a success, for something of the kind has long been regarded as a desideratum. Information on the subject, or entries for the fair, can be had on application to Col. R. S. Swords, the corresponding secretary, at the rooms of the Society, 264 Broad Street, Newark, N. J.

Varieties of Fruits.—The labors of fruit-book writers can hardly be estimated, when we remember or acknowledge that there are over three thousand varieties of apples named and distributed; over two thousand of pears; nearly two hundred of cherries; more than that of peaches and plums; and of strawberries, untold numbers. Let us look forward with a hope that some of our Horticultural Societies will make a bold push and a first step toward checking the introduction of a new sort without some real superior merit to demand for it a place in the list of those worthy general attention.

Procure Good Plants.—We have repeatedly urged upon our readers the value of really strong, healthy, vigorous plants as compared with those offered at a low rate. And we now again say, do not be deceived into buying plants termed *cheap;* but see to it that every plant is perfect in itself, and pay the grower liberally therefor. The laborer is worthy of his hire; and he who supplies good, strong, healthy trees or plants at a fair price is much more to be commended than the dealer who proposes largely, but fails to supply as per proposal, even at a much less nominal sum. "The best is the cheapest," is an old and good maxim.

Short Hints.—Places of limited extent require far more of study and knowledge to create beauty and due effect than those which cover acres, and bring from time to time, by reason of their extent, some change of view. The small place is presented almost entirely at one view to the eye, and its arrangement, as a whole, whether effectively or otherwise, requires care and thought combined with a fine taste and appreciation of the beautiful.

In laying out and planting clumps and belts for ornament in places of limited extent, care should be taken that the ground is not wasted and the appearance of extent diminished by making them too broad, covering too much surface. As a guide, six to ten feet is sufficient width, if planted thickly with young plants, as it leaves more room for grass, giving the place a lighter, more airy, and elegant appearance, than if crowded and darkened with too much breadth.

Where large surfaces of grass require relief, it may be done with a few good single specimens, clumps of evergreens, or beds of flowering plants, always remembering that, except sufficient roomy walks, no bare ground should be seen that can be avoided. Many places are spoiled by having two or three times as much surface covered with trees as they ought to have.

Care should be taken to prevent hedges, trees, or shrubs from becoming top-heavy, causing the shade and drip from the higher branches to kill the lower, leaving the ground bare at the bottom; so that while the plants are young, it is best to prune all more or less into shape, cutting in the branches gradually closer near the top, and leaving the lower longer, so that every part of the plant can have equal light, air, and rain, thus keeping the ground covered, and every part of the plant equally furnished with good, healthy, well ripened wood, leaves, and flowers. Where the plants have been much neglected, and become thin or bad in shape, a portion of the worst branches may be shortened in one season, which may break during the following summer, and the remainder may then be cut in the next season.

In arranging plants or trees that are distinct in form or color, they should be distributed at unequal distances, and in groups of unequal quantities, so that one thing may prevail in one part and another in another; otherwise, whether the place be large or small, it would present too much of repetition.

Overbearing of Vineyards.—We know there are a few persons who believe in permitting the vine to set and ripen all the fruit it will; but we also know that whenever we have watched the practice of such advocates, it has resulted within a few years in either mildew of leaf and fruit, rot, or an imperfect ripening of more than one half the fruit. Our oldest and most experienced vignerons; those who have unwittingly practiced a year or two of overloading the vines; all vegetable physiology and study of the natural laws of life and health, tell us that an undue exhaustion of the system must, if continued, soon be followed by disease or premature death. Acting upon these teachings, the true vineyardist—he who owns his vines and expects to continue yearly gathering the fruit therefrom—will now go over them carefully, note the strength of the vine, and judging with good common-sense knowledge of supply and demand, remove at once all apparent superfluous or overloading number of bunches while they are yet but in the blossom, and have not drawn from the regular supply food belonging to the vine. Young vines are especially injured by allowing them to fruit freely; and many a one, because his canes are good and strong the second year from planting, permits them to fruit eight or ten bunches, and thus reduces their natural amount of vitality not yet fully gained or matured. In vegetable life an over-exhaustion, while the plant is young and immature, is just as permanently injured as over-working, or in any other way exhausting the natural system of animal life before it has reached maturity.

Back Volumes.—We still have a few bound volumes of the Horticulturist of 1865, '66, and '67, which we will send, postpaid, for $2 50 each, if single volumes only are taken of either years. All three years sent for $4 50. Those desiring back volumes to complete their sets have now an opportunity to obtain them at a very moderate rate.

"Record of Horticulture." By A. S. Fuller. The second number of this valuable work is now ready for delivery. Every man interested in fruits, flowers, or vegetables should have a copy for the description of new plants, shrubs, trees, and vegetables, with lists of the most valuable, which it contains. Every nurseryman and dealer in plants should have a copy, for it contains the address of 800 horticulturists, who want the circulars and catalogues of others in the trade.

This work does not contain an almanac and calendar of operations, and is not a collection of essays from different writers on different subjects, but gives the experience of one who knows what he is writing about and has no ax to grind himself, except to keep his readers posted in regard to the progress of horticulture. Sent, postpaid, from this office for $1.